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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,520	07/19/2000	Brad C. Hollander	18357-00610US	1131

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EXAMINER

MCKANE, ELIZABETH L

ART UNIT	PAPER NUMBER
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1744

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,520

Applicant(s)

HOLLANDER, BRAD C.

Examiner

Leigh McKane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 13-20, 22-28, 30 and 33-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 13-15, 17-20, 22-28, 30, 33-35 and 37-40 is/are rejected.
- 7) ☒ Claim(s) 16 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 022405.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 17, 18, 22, 30, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara (JP 10-286301) or Kitamura et al (JP 07-39273), both in view of Peterson (U.S. Patent No. 4,968,489).

With respect to claims 1 and 22, Kitamura et al teaches an apparatus for sterilizing fluids held within a water purifying tank wherein the apparatus includes a fluid conduit 5 which is partially submerged in the tank, an ultraviolet light source 3,4 within the fluid conduit, and an air drive unit 11 coupled to the fluid conduit for pumping air into the fluid, causing the fluid to flow through inlet 8, up through the conduit 5, and out of exit 9. See Figures and English machine translation.

Kurihara discloses an apparatus for sterilizing fluids held within a reservoir 1 wherein the apparatus includes a fluid conduit 2 which is partially submerged in the reservoir, an ultraviolet light source 3,4 within the fluid conduit, and an air drive unit 16a coupled to the fluid conduit for pumping air into the fluid, causing the fluid to flow into inlet 7, through conduit 2, and out exit 8. See Figures and English machine translation.

Neither Kurihara nor Kitamura et al teach a protective coating surrounding and in touching proximity with at least a portion of the ultraviolet light source, such that the protective coating hermetically seals the ultraviolet light source.

Peterson discloses that it is known in the art to house immersed UV quartz lamp 32, 42 in a protective coating 162, such as a UV-transmissive FEP sleeve (col.2, lines 15-31), in order to protect them from accumulating slime, deposits, and breakage. The coating surrounds the light source 32, 42 in touching proximity thereto. For the reasons set forth by Peterson, it would have been obvious to provide the FEP sleeve of Peterson for the immersed lamps of Kurihara and Kitamura et al.. Moreover, although not specifically disclosed the light sources of Kurihara and Kitamura et al are clearly hermetically sealed, removable containers. They would have to be hermetically sealed in order to protect the UV bulbs from the flowing fluid and would obviously be removable in order to service the UV bulb. In combining Peterson with either of Kurihara or Kitamura et al, it would have been further obvious to assure hermetic sealing of the lamps since they are immersed in water.

As to claims 17, 18, 37, and 38, the apparatus of Peterson includes the sleeve 162 and end caps 52 for sealing the tube. Although Peterson does not teach from what material the end caps are constructed, it would have been obvious to form them from the FEP material, in order to avoid slime accumulation thereon.

With respect to claim 30, although not specifically disclosed, it would have been obvious to fabricate the sleeves of Kurihara and Kitamura et al to be removable in order to service/replace the UV bulb held within.

5. Claims 2-6, 8, 13-15, 23-27, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara or Kitamura et al, both in view of Peterson as applied to claims 1 and 22 above, and further in view of Block (Disinfection, Sterilization, and Preservation, 4th ed.).

Neither Kurihara or Kitamura et al teach the specifics of the lamp within the UV light

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source. Block evidences that “the most practical method of generating UV radiation is by passage of electric discharge through low-pressure mercury vapor enclosed in special glass tubes...The principle of all germicidal lamps is the same, that of electron flow between electrodes through ionized mercury vapor.” Page 555, “Germicidal Lamps. ” Thus, standard UV lamps by definition have a casing for holding a gas and a vaporizable material, and at least one electrode.

In addition, the combination with Peterson discloses that the sleeve is applied in the form of a sleeve, or a strip that is would onto the tube, or a dipped coating. See Peterson col.4, lines 4-8. However, it is deemed obvious to apply the sleeve in any other art recognized methods, such as heat shrinking and form pressing.

6. Claims 7 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara or Kitamura et al, both in view of Peterson and Block as applied to claims 3 and 23 above, and further in view of Boyce et al (U.S. Patent No. 3,018,187).

The combinations of Kurihara or Kitamura et al, both with Peterson, while teaching a lamp having a protective coating thereon, fail to teach a silicon or silicone protective coating. Boyce et al discloses coating a lamp with a silicone material which is moisture-impervious and prevents problems associated with the accumulation of water on the exterior surface of the lamp. See col.1, lines 24-70. In order to avoid these same problems, it would have been obvious to fabricate the protective sleeve of the combination from other water impermeable materials, such as silicone.

7. Claims 19, 20, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurihara in view of Peterson and Block

The combination of Kurihara with Peterson and Block is outlined in paragraphs *supra*. Moreover, Kurihara evidences the known use of silicone to seal sleeve 3. See page 2 of machine translation, section [0013]. For this reason, it is deemed obvious to use silicone for the end caps of the above combination.

Allowable Subject Matter

8. Claims 16 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Although the prior art discloses a protective sleeve for a lamp tube, it fails to teach or suggest a protective sleeve that hermetically seals a solar power source within the lamp tube.

Response to Arguments

10. Applicant's arguments filed 24 February 2005 have been fully considered but they are not persuasive. Specifically, Applicant argues that the combination fails to teach or suggest "a protective coating surrounding and in touching proximity with at least a portion of the ultraviolet light source, the protective coating hermetically sealing the ultraviolet light source, the protective coating having properties that allow the germicidal energy to pass." However, as the Examiner is giving this language the broadest reasonable interpretation, wherein the "light source" includes both the lamp 42 and quartz tube 32 of Peterson, the present claims are still rendered obvious.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

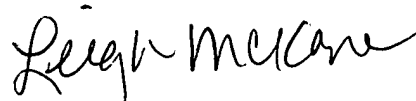
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (6:30 am-4:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Leigh McKane
Primary Examiner
Art Unit 1744

elm
2 May 2005